

**RIVERSIDE ENERGY RESOURCE CENTER
SMALL POWER PLANT EXEMPTION
RESPONSE TO CEC DATA REQUESTS
04-SPPE-01**

Technical Area: Traffic and Transportation

BACKGROUND

Page 117 of the Small Power Plant Exemption Application states that the Riverside Municipal Airport is approximately .5 miles to the south of the proposed Riverside Energy Resource Center project site. The Riverside Municipal Airport is a city maintained and operated facility. The Airport is a general aviation facility that services the Los Angeles/Riverside areas as a reliever airport. The airport maintains a 5,400-foot x 100-foot runway and a 2,851-foot x 48-foot runway that allow it to handle general aviation and business/corporate jets. The airport has been approved by the Federal Aviation Administration (FAA) for instrument approach landings, and therefore requires a substantial clearance area above tall structures, including transmission line towers.

Data Request 58: Staff requests that the applicant provide the following items: a copy of the FAA's written determination on the applicant's filing of an FAA Form 7460 - "Notice of Proposed Construction or Alteration" for the project.

Response: The Applicant is in the process of developing engineering and surveying data required by the FAA for inclusion in the Form 7460 - "Notice of Proposed Construction or Alteration" filing. It is anticipated that the application will be filed by June 18.

Data Request 59: Provide a description of the amount of light to be generated into the airspace by the proposed project.

Response: There are three (3) basic outdoor lighting systems for the proposed Project as follows:

1. System No. 1 - Roadway and parking area lighting with a minimum illumination level of 1 foot-candle;
2. System No. 2 - Power block platform, operation and maintenance lighting with a minimum illumination level of 10 foot-candle;

3. System No. 3 - Fence security lighting with a minimum illumination level of 2 foot-candle.

Each outdoor lighting system shall be 277V and use high-pressure sodium (HPS) type fixtures ranging from 70 to 400 watts. The quantity, location and wattage will be determined by the final lighting design.

Each outdoor lighting system will be provided with its own manual and automatic control system. An Hand-Off-Auto selector switch with contactor and Photo Electric (PE) cell will be used. In the hand position the outdoor system lights will be on continuously. In the off position the lights will be off. In the auto position the Photoelectric light sensor will turn the lights on at dusk and off at dawn.

Data Request 60: Provide a description of the amount/level of electromagnetic interference that may be generated during plant operations that could affect aircraft communication and navigational systems during take-off or landing at the Riverside Municipal Airport.

Response: There are no issues of concern with low frequency, 60 Hertz (Hz) Electric and Magnetic Fields (EMF) from the plant or transmission lines on aircraft communication and navigational systems at the Riverside Municipal Airport. The reason for this is because 60 Hz EMF generated by sources in the plant are localized within the plant and do not extend beyond the plant boundaries. The 69 kV transmission line will produce 60 Hz EMF outside the plant but these EMF levels will be localized to the transmission line and will be undetectable by aircraft communication and navigational systems. The applicant is not aware of any restrictions from power plant communication systems on aircraft communication and navigation systems primarily because the radio interference levels from the plant switchyard equipment will also occur almost entirely within plant area. Radio interference can occur as a result of poorly maintained power line hardware (such as conductor ties). But this is not likely for the 69 kV transmission line because the line is designed with hardware that will not produce so called "high frequency gap discharge" interference that impact aircraft communication systems.

Similar investigations were conducted for the Walnut Energy Center (WEC) in Southern California. In the California Energy

Commission's (CEC) letter by Mark R. Hamblin to Debra A. Whitmore with the Stanislaus County Airport Land Use Commission dated October 7, 2003 it states that "Radio interference to aircraft caused by EMF generation by the power plant and its related facilities does not present a problem. In general, radio noise includes frequencies on the AM broadband typically between 525 to 1605 kHz. The EMF levels calculated for the WEC are 60 Hz. Although power plants potentially can generate radio noise because of construction of their motors; I'm not aware of any instance where it has been a problem to low frequency radios. Power plants are designed and constructed to limit EMF generation."

Data Request 61: Provide a detailed discussion of the height, length, width and seasonal occurrence of any visible or thermal plumes that may be generated by the proposed facility into the airspace.

Response: The only two visible or thermal plumes will be from the cooling tower and the SCR exhaust stacks. Both plumes will only be capable of being present during plant operation (May - October).

Visible plume from the cooling tower is dependent upon the heat load and atmospheric conditions, primarily ambient temperature and relative humidity (RH). A plume will only be present if the saturated air stream (100% RH) exiting the tower crosses the saturation line on the psychrometric chart while on its way to achieving ambient conditions (See attached diagram). In May - October, the ambient RH ranges from 31 - 74% throughout the day and the low ambient temperature for this region in May/October is 50 F. Choosing the rare worst case of 74% RH on 50 F cool morning in May or October, the cooling line on the attached psychrometric chart ever so slightly crosses the saturation line. Therefore, at those conditions, a small visual plume will occur for a short period of time. However, if the ambient air temperature increases 2 or more degrees, the plume will disappear. Also, this analysis assumes the cooling tower is at maximum load. However, on a 50 F day the chiller will not be operating so the heat load on the tower drops significantly and there is only a small load on one cooling tower cell for combustion turbine lube oil cooling. This lowers the exit temperature of the cooling tower and drops the cooling line below the saturation curve. Therefore, no plume will be visible. In addition, this is a small simple cycle peaker project that likely will not be operated on those relatively cold hours of the day. A peaker primarily operates during the hotter parts of the day.

Therefore, it is highly unlikely that the worst case conditions described above will occur during plant operation.

The applicant is in the process of estimating the height, length and width of thermal plumes from the SCR stacks. This information will be provided to the CEC when it becomes available.

Data Request 62: Provide a copy of the current FAA approved "Approach and Clear Zone Plan" for the Riverside Municipal Airport, with the exact location of the proposed power generation facility and transmission towers clearly marked.

Response: The Applicant is in the process of developing engineering and surveying data required to depict the exact location of proposed project facilities in relation to the FAA approved "Approach and Clear Zone Plan".

Evaporative 400



